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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/020,227	08/01/2001	Laura J. Ball	SP01-193	5308

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CORNING INCORPORATED  
SP-TI-3-1  
CORNING, NY 14831

EXAMINER

VINCENT, SEAN E

ART UNIT

PAPER NUMBER

1331

DATE MAILED 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/820,227

Applicant(s)

BALL ET AL

Examiner

Sean E Vincent

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory maximum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other \_\_\_\_\_

**DETAILED ACTION*****Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-9 and 11-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The original disclosure did not contain support for "rotating horizontal deposition surface".

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 4-9 and 11-15 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Rau et al (US RE30,883). Rau et al taught at col. 1, line 66 to col. 2, line 25:

" Broadly, this invention contemplates an improvement in a process for producing a synthetic hydroxyl ion-free quartz glass wherein a hydrogen-free silicon compound is heated

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in a **hydrogen-free gas stream**, the gas stream being passed through an **induction coupled plasma burner** and containing elemental and/or bound oxygen and the **oxidation product is deposited on the refractory support as a vitreous mass**, the improvement comprising including in said gas stream a **gaseous hydrogen-free thermally decomposable compound which yields fluorine in an amount of at least 500 gms per kg of silica to be produced.**

Accordingly, the objects of the present invention are achieved in a process for the production of synthetic, hydroxyl-ion-free quartz glass by oxidizing a hydrogen-free silicon compound in a hydrogen-free gas stream containing elemental and/or bound oxygen and depositing the oxidation product as a vitreous mass on a refractory support, the gas stream being passed through an induction-coupled plasma burner, by the fact that, in accordance with the invention, for the achievement of a prescribed reduction of the refractive index of synthetic quartz glass, a hydrogen-free, heat-decomposable fluorine compound in vapor form, **especially dichlorodifluoromethane ( $\text{CCl}_2\text{F}_2$ )**, is introduced into the flame of the plasma burner in the amount of at least 500 g per kg of synthesized  $\text{SiO}_2$ . " (emphasis added)

At col. 4, lines 18-46, Rau et al stated:

"As soon as the plasma burner is burning properly, the quartz glass piece 19 is advanced into the flame and heated with simultaneous rotation. When a temperature of about  $1900^\circ\text{C}$  is reached, the vaporous mixture of **silicon chloride** and oxygen is fed from vessel 5 into the plasma burner and then **dichlorodifluoromethane** ( $\text{CCl}_2\text{F}_2$ ) is admixed, at a rate, for example, of 0.7 kg/h, with the oxygen being introduced through line 15. Due to the high temperature of the plasma flame the  $\text{SiCl}_4$  decomposes and reacts with the oxygen to form  $\text{SiO}_2$ , **which deposits itself on the quartz glass piece 19 and vitrifies**. The dichlorodifluoromethane is also decomposed by the high temperature of the plasma flame and fluorine is incorporated into the vitreous  $\text{SiO}_2$  in a proportion of, for example, 5000 parts per million

**Since only gases or vapors which are free of hydrogen are used in the process of the invention, the product, fluorine-doped synthetic quartz glass, is free of hydroxyl ions.**

Instead of the quartz glass piece 19, a rod 19' of hydroxyl-ion-free synthetic quartz glass can be used, as represented diagrammatically in FIG. 2, which is held in end mounts 26 which are longitudinally displaceable and contain machinery **for the rotation of the rod 19'** (arrows 27 and 28). **The fluorine-doped synthetic quartz glass is then deposited** as a covering 29 on the rod 19'. The product thus obtained is a foreproduct which can then be drawn directly to form a light-conductive fiber."

(emphasis added)

Figure 2 of Rau et al illustrates that the rod 19' is horizontally disposed with the deposition occurring on a horizontal surface.

5. Claim 3 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Gouskov et al (WO 99/52832). At page 4, lines 24-30, Gouskov et al stated:

"In one aspect of the present invention, a plasma source is placed in proximity to a starter rod formed from a primary material. The starter rod is held horizontally at both ends and is arranged to rotate about its longitudinal axis." (emphasis added)

At page 6, lines 11-20, Gouskov et al stated:

"During plasma deposition, a dry plasma gas having a low hydroxyl concentration is used to form the plasma. A dry quartz source gas comprising SiCl<sub>4</sub>, or other similar source gases having a low hydroxyl concentration, and a dopant source gas such as GeCl<sub>4</sub>, which is sometimes co-doped with POCl<sub>3</sub> or PCl<sub>5</sub> are introduced in proximity to the plasma. This causes the material to be converted to silica (SiO<sub>2</sub>), or silica doped with germanium oxide (GeO<sub>2</sub>) and or phosphorous pentoxide (P<sub>2</sub>O<sub>5</sub>) and deposited onto the target and fused into vitreous quartz in one simple step." (emphasis added)

### *Response to Arguments*

6. Applicant's arguments with respect to claims 1-9 and 11-15 have been considered but are moot in view of the new ground(s) of rejection.

### *Conclusion*

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

8. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean E Vincent whose telephone number is (571) 272-1194. The examiner can normally be reached on M - F (8:30 - 6:00).

10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sean E Vincent  
Primary Examiner  
Art Unit 1731

S Vincent